UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XA001NM

Site Name: Loamy Upland

Precipitation or Climate Zone: 14 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to undulating upland plains. Elevation ranges from 5,000 to 7,000 feet above sea level. Slopes are characteristically 0 to 7 percent but may range to 10 percent. The medium textured soil surface differentiates this site from the surrounding upland sites.

The plant-soil-air-water relationship is favorable in years of normal or above normal precipitation. The soils have the ability to store moisture from winter snowfall and early spring rains for use by cool-season forbs and grasses.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	5,000	7,000
Slope (percent)	0	10
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Rare
Duration	Very brief	Brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Precipitation averages 14 to 16 inches. Seventy seven percent of the year's moisture normally falls during the period of May through October. Practically all of it is brought by brief afternoon and evening thunderstorms. In July and August, normally the wettest months of the year, one can expect about one day in five when rainfall exceeds one-tenth inch. Early spring precipitation in May benefits the cool-season plants. Winter precipitation, supplying 24 percent of the year's moisture, normally has no more than two days a month with as much as one-tenth inch of moisture. Much of the winter precipitation falls as snow.

Air temperatures vary from a monthly mean of 20 degrees F in January to 69 degrees F in July. Daily high temperatures average in the 80's and low 90's during the summer. Winter low temperatures fall below the freezing mark much of the time from November through March with minimum temperatures approaching 25 degrees F below zero. Dates of the last killing frost may vary from May 9th through May 17th, and the first killing frost from September 27th to October 8th. The frost-free season ranges from 141 days to 153 days from early May to early October.

Wind velocities for the area average 10 to 12 miles per hour and prevail from the south and southwest. Generally, March is the windiest month. Strong winds during the spring cause rapid drying of the soil surface.

Nearby mountains to the west intercept much of the precipitation from the Pacific storms coming through this area during the winter. About 70 percent of the 14 to 16 inches of annual precipitation falls in the form of rainfall during the frost-free season. About 40 percent of the annual precipitation benefits cool-season plants, 50 percent benefits warm-season plants and 10 percent falls during the season of plant dormancy. Relative humidity is moderately low. The sun shines approximately 75 percent of the time.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	132	149
Freeze-free period (days):	153	171
Mean annual precipitation (inches):	14	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.27	.40	10.4	48.2
February	.26	.43	14.1	52.7
March	.56	.78	20.4	59.6
April	.85	1.20	28.7	67.9
May	1.68	2.49	38.3	76.4
June	1.77	2.21	46.3	85.7
July	2.53	3.43	50.9	88.8
August	2.95	3.57	50.6	86.6
September	1.56	2.02	42.9	80.7
October	1.02	1.20	31.4	71.4
November	.44	.59	19.9	57.6
December	.25	.51	12.3	50.5

Climate Stations:

				Period		
Station ID	293706	Location	Grenville, NM	From: 01/01/41	To:	12/31/01
Station ID	294856	Location	Las Vegas FAA Airport, NM	From: 01/01/41	To:	12/31/01
Station ID	295490	Location	Maxwell, NM	From: 01/01/14	To:	12/31/01
Station ID	297280	Location	Raton KRTN Radio, NM	From: 12/01/78	To:	12/31/01
Station ID	298501	Location	Springer, NM	From: 01/01/14	To:	12/31/01
Station ID	299330	Location	Valmora, NM	From: 03/01/17	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
NA		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are well drained moderately deep to deep soils on uplands. The surface layer consists of loams and silt loams. The subsoil and substratum are silt loams and silty clay loams. These soils have moderate to moderately slow permeability. Runoff is medium. Available water-holding capacity is high. Effective rooting depth ranges from 20 to more than 60 inches.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Clay loam
3. Silty loam
4. Fine sandy loam
5. Silty clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderately slow	Moderate
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	9	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a grassland characterized by mid and short-grasses. Blue grama is the dominant warm-season species. Western wheatgrass is the dominant cool-season species.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	3 – 5 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	30 –35
Bare ground	35 – 45
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	15 – 20
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	312	741	1,170
Forb	32	76	120
Tree/Shrub/Vine	32	76	120
Lichen			
Moss			
Microbiotic Crusts			
Total	400	950	1,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	333 – 380	333 – 380
2	PASM	Western Wheatgrass	190 – 238	190 – 238
3	ELEL5	Bottlebrush Squirreltail	95 – 143	95 – 143
4	PLJA	Galleta	48 – 95	48 – 95
5	BOCU	Sideoats Grama	48 – 95	48 – 95
6	ARIST	Threeawn spp.	29 – 48	29 – 48
7	MUTO2	Ring Muhly	29 – 48	29 – 48
8	BUDA	Buffalograss	29 – 48	29 – 48
9	LYPH	Wolftail	29 – 48	29 – 48
10	SPCR	Sand Dropseed	29 – 48	29 – 48
11	2GRAM	Other Grasses	29 – 48	29 – 48

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	SPCO	Scarlet Globemallow	10 –48	10 – 48
	LIPU	Dotted Gayfeather		
	RACO3	Prairie Coneflower		
	AMPS	Western Ragweed		
	DELEA	Prairieclover spp.		
	PSORA	Scurfpea spp.		
	OXYTR	Locoweed spp.		
	2FA	Other Annual Forbs		
	2FP	Other Perennial Forbs		

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	KRLA2	Winterfat	29 – 48	29 – 48
14	ARFR4	Fringed Sagewort	29 – 48	29 – 48
15	2SD	Other Shrubs	29 – 48	29 – 48

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other shrubs that could appear include: broom snakeweed, plains pricklypear cactus, ball cactus, yucca spp., cholla cactus and threadleaf groundsel.
Other forbs that could appear include: curlycup gumweed, bullthistle, sophora, wildbuckwheat spp. and whorled milkweed.

Plant Growth Curves

Growth Curve ID **3701NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **A mixed mid and short-grassland.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, badger, black-tailed jackrabbit, black-tailed prairie dog, thirteen-lined ground squirrel, prairie pocket gopher, marsh hawk, burrowing owl, horned lark, meadowlark, scaled quail, prairie rattlesnake, great plains toad and ornate box turtle.

The prairie falcon hunts yearlong over these habitats. These short grass sites are breeding areas for the long-billed curlew, upland plover and lark bunting.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Alicia	B
Berthoud	B
Capulin	B
Carnero	C
Charette	C
Colmor	B
Deacon	?
Escabosa	C
Kim	B
La Brier	D
Lavate	B
Loama	?
Manzano	B
Minor Components	B
Partri	C
Pastura	D
Remunda	C
Rock Outcrop	C
Swastika	C
Torreon	C
Tricon	C

Recreational Uses:

This site has fair aesthetic appeal because of the open space. The camping, hiking and picnicking are poor. Hunting is excellent for pronghorn antelope and is fair for rabbits.

Wood Products:

This site produces no commercial wood products. Dried cholla cactus branches can be used for ornamental purposes.

Other Products:

Grazing:

This site can be used by all classes of livestock during any season of the year. Because of the occasional severe winter storms, emergency feed may be necessary. Yearling calves grazing from May to October may be favored because of these winter storms. Approximately 90 percent of the total yield is from species that furnish forage for grazing. Continuous grazing during the growing season will cause the more desirable forage plants such as western wheatgrass, bottlebrush squirreltail, galleta, sideoats grama and winterfat to decrease. Species most likely to increase are blue grama, ring muhly and buffalograss. As the ecological condition deteriorates, it is accompanied by a sharp increase of blue grama. Continuous heavy grazing will cause blue grama to form a low, dense turf, which is low in productivity. A system of deferred grazing, which varies the time of grazing and rest in the pastures during successive years in needed to maintain or improve the plant community. Grazing western wheatgrass during the months of May and June will cause a sharp decrease; therefore, rest during this period will allow western wheatgrass to grow and reproduce.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.8 – 3.6
75 – 51	3.5 – 4.2
50 – 26	4.1 – 10.8
25 – 0	10.8+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	P	P	P	P	P	D	D	D
Prairieclover	Dalea spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Fringed Sagewort	Artemisia frigida	L/S	D	D	U	U	U	U	U	U	D	D	D	D

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U
Fringed Sagewort	Artemisia frigida	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Prairieclover	Dalea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: _____

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Colfax, Mora, San Miguel, Union.

Characteristic Soils Are:	
Alicia, Berthoud, Capulin, Carnero, Charette	Colmor, Deacon, Escabosa, Kim, La Brier, Lavate
Loama, Manzano, Partri, Pastura, Remunda	Rock Outcrop, Swastika, Torreon, Tricon
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	04/23/80	Durwood E. Ball	04/29/80

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	08/16/02	George Chavez	12/17/02